**Assumptions**

1. Status: if the review’s status is “finished”, it will be submitted to the committee, if not (status is “unfinished”), it will be just saved but not submitted
2. Affiliations can have multiple values, i.e. current affiliation and previous affiliations
3. Author has the same affiliation, which is already in the “authors can’t review papers written by any person who currently shares / has shared the same affiliation as them in the past”
4. “Accept” attribute of “assigned” relation is a boolean attribute.
5. “Overall recommendation” includes “accept/reject” recommendation as well.

**Specialization hierarchies:**

1. Overlapping relationship between superclass “Person” and subclasses “Author” and “Reviewer”

Every person in our database should be either “Reviewer” or “Author”. It is important to note that a person can be both “Reviewer” and “Author”.

**Relationships:**

1. *Paper is assigned to reviewer*

Paper is assigned to 2 or more reviewers (in crow’s foot notation we determined this multiplicity as just “many”). Reviewers can review 1 or many papers.

Reviewers can accept or reject the paper. The attribute “accept” is boolean, meaning accept can be “yes” or “no”. And if the reviewer rejects, the reason for rejection is written. If “accept” = yes, then the “reason for rejection” attributes’ values can be NULL.  
Paper and the reviewer are assigned to each other, based on the topic of the paper (the attribute of the entity ‘Paper’), set of topics of expertise of the reviewers (“Reviewer”s attribute) and the affiliations of the reviewer (if the affiliations of the reviewer is the same as the author’s affiliations(current and previous), the review is not allowed (derived attribute ‘allowed’), if not the same the paper is finally assigned to the reviewer)

1. *Person has affiliation.*

Every person in our database has affiliations. There might be one or several of them if the person has changed his current affiliation. Since It includes past and current affiliations and each affiliation can have several authors, it has many to many relationships.

1. *Reviewer makes a review.*

Although reviewers may have several papers assigned to them, they can make only one review for each of them. The same is for a review, it can be written only by one reviewer. Each reviewer writes an individual review.

1. *Author writes a paper.*

“Writes” relation has a boolean attribute “Contact Author?” in order to know whether this author who writes a paper is the contact author or not. One author may write 1 to many papers and one paper may be written by 1 to many authors.

1. *Paper gets a review.*

Each paper should have at least two reviews. There is also status of the review, which can have several states. The time of entering current state is also indicated by this relationship.

**Entities:**

1. *Person.*

Person is a super-class of “Author” and “Reviewer” entities. It also has attributes of “Last Name”, “First Name” and an email address, where the last one is a key attribute of the entity. It also has a relationship “has” with the “Affiliation” attribute which is described above.

1. *Author.*

This entity is a subclass of “Person”. Basically, Author is also counted as a person in our database, but this entity has its own special role. This role is writing papers. Not every person in our model is supposed to write a paper. For example, “Reviewer” can exist in our database without his own written papers, this person can just review other papers.

1. *Reviewer.*

Reviewer is a subclass of “Person”. It inherits all the attributes of the entity “Person” (‘email’ (key attribute), last name, first name) and “Person”’s relationship with its affiliations. Also, it has its own attributes, like: phone number, set of topics of expertise (multi-valued attribute), total number of papers reviewed.

It has relationships with the papers assigned and the reviews made.

1. *Affiliation.*

Affiliation is an entity in a relation “has” with “Person” entity which is described above. It has attributes: “name”, “country code”, “from-date” and “to-date” (if it’s past affiliation, but if it’s current affiliation then “to-date” is empty) of the person in the given affiliation, and “website address” which is a key attribute of the entity.

1. *Review.*

Review has such attributes as Comments and Overall recommendation. There are two types of comments, one is open and visible by the author, and the second one is visible for the committee only. It inherits Person’s email and Paper’s id, as its key (weak entity).

1. *Paper.*

Paper has a relationship with “Author” entity and ternary relationship with “Review” and “Reviewer” entities which are described above. It has attributes “filename”, “title”, “abstract”, “final decision”, “id” which is a key attribute and “topics” which may have several values. The final decision is made on the paper, based on the comments of the reviewers and the paper’s rates.